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10/662,330

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EXAMINER

LIGHTFOOT, ELENA TSOY

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Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKASHI OHIRA

Appeal 2008-4455
Application 10/662,330
Technology Center 1700

Decided: December 12, 2008

Before TERRY J. OWENS, PETER F. KRATZ, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

KRATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal from the Examiner's final rejection of
claims 1 and 3-6. Oral arguments were presented on November 06, 2008.
We have jurisdiction pursuant to 35 U.S.C. §§ 6 and 134.

STATEMENT OF THE CASE

Appellant's invention is directed to a method of preparing a golf ball.

Claim 1 is illustrative and reproduced below:

1. A method for preparing a golf ball, comprising the steps of:

coating a layer of a primer composition comprising an aqueous resin having UV-curable functional group in a molecule and a crosslinker on the cover surface of a golf ball,

applying a UV-curable paint onto the layer, wherein the primer composition layer is not irradiated with UV radiation prior to having the UV-curable paint applied thereon, and

irradiating the layers with UV radiation, thereby permitting both of the primer composition layer and the UV-curable paint to cure at the same time.

The Examiner relies on the following prior art references as evidence in rejecting the appealed claims:

Kaiya	4,145,501	Mar. 20, 1979
Setthachayanon	5,089,376	Feb. 18, 1992
Nealon	5,300,325	Apr. 5, 1994
Crast	6,165,564	Dec. 26, 2000
Hamada	US 6,255,382 B1	Jul. 3, 2001
Lokai	US 6,319,983 B1	Nov. 20, 2001
Jin	US 2002/0016226	Feb. 7, 2002

Claims 1 and 3-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Crast in view of Jin, Lokai, and Nealon. Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Crast in view of Jin, Lokai, Nealon, and Setthachayanon.

ISSUE

Has Appellant identified reversible error in the Examiner's obviousness rejections by asserting that the Examiner has not substantiated why one of ordinary skill in the art would have been led to the claimed subject matter by Crast's teachings taken in combination with the teachings of the other applied references; that is, by modifying Crast's method by: (1) employing a UV curable aqueous resin as a primer composition in Crast's method; (2) causing such a primer composition to remain non-irradiated with UV radiation before a UV curable paint is applied thereto; and (3) applying UV radiation to both layers together so that the layers cure at the same time as the appealed claims require?

SUMMARY DECISION

We answer this question in the affirmative. Thus, we reverse the Examiner's obviousness rejections.

PRINCIPALS OF LAW

Rejections based on § 103(a) must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). In this regard, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007). After all, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*,

441 F.3d 977, 988 (Fed. Cir. 2006). The analysis supporting obviousness should be made explicit and should “identify a reason that would have prompted a person of ordinary skill in the art to combine the elements” in the manner claimed. *See KSR*, 127 S. Ct. at 1741.

The Examiner bears the initial burden, on review of prior art or on any other ground, of presenting a prima facie case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

FINDINGS OF FACT

We agree with the Examiner’s factual finding that:

Crast et al disclose a method for preparing a golf ball having polyurethane top coating formed from UV-curable coating (See column 8, lines 56-57) comprising applying the UV-curable coating ... to a **primer**/basecoat on an *ionomeric* cover 16 of a golf ball 10 (See column 4, lines 11-17; column 7, lines 18-19), and irradiating the substrate with ultraviolet radiation in an inert gas environment for a sufficient amount of time with optional aging **to fully cure** the golf ball (See Abstract; See column 6, line 31 to column 7, line 15). The UV-curable coating comprises polyether acrylates and urethane acrylate oligomers (See column 4, lines 28-32).

Ans. 3

Moreover, we agree with the Examiner’s factual determination that:

Crast et al fail to teach that: (i) a primer composition comprises an aqueous resin having UV-curable functional groups in a molecule and a crosslinker; [and] (ii) ... the aqueous primer layer and the UV-curable top coating are cured at the same time (i.e. *co-cured*) with UV radiation.

Id.

Jin discloses a UV curable coating for a golf ball, including: (1) a UV-reactive component, such as urethane acrylate oligomers; (2) polyfunctional

aziridine; and (3) a photo-initiator (¶¶ 0001, 0014, 0015, and 0024). The coating includes greater than 90 percent solids so the coating can include some solvent (Jin; ¶¶ 0036-0038). Jin teaches the coating is particularly suitable for golf ball applications wherein the golf ball includes an ionomer resin layer as a cover because the coating has good adherence to such a resin cover (¶¶ 0039-0041). Jin discloses that a reactive diluent system can be employed in combination with the UV-curable oligomer (¶¶ 0030-0032).

Lokai discloses the formation of non-dispersing (meth)acrylic esters containing urethane groups and the use thereof in forming radiation-curable coating compositions (Abstract, col. 1, ll. 8-12, col. 7, l. 57–col. 8, l.2).

Nealon discloses a golf ball including an ionomer cover and a polyurethane top coat wherein a water-borne acrylic resin or polyurethane resin dispersion, including polyfunctional aziridine cross-linking agent, is employed as a primer to improve adhesion (Abstract, col. 1, l. 50- col. 2, l. 68). Nealon discloses that the primer and top coat can be thermally co-cured (col. 4, ll. 45-54). Nealon teaches that the primer can be thermally cured prior to the top coat application and subsequent co-curing step (id.).

Setthachayanon discloses a UV sensitive solder mask coating composition containing a carboxyl moiety that renders a urethane (meth)acrylate polymer coating composition soluble or swellable in aqueous alkali solutions (col. 3, ll. 20-38).

ANALYSIS

As the Examiner acknowledges, Crast does not disclose a golf ball coating method wherein an aqueous resin UV-curable primer, including a cross-linker, is employed underneath a subsequently applied UV-curable

paint coating, and wherein the paint coating and primer are irradiated with UV radiation for curing at the same time, as Appellant's claims require (Ans. 3; see the factual finding above).

While Jin discloses a UV-curable coating for a golf ball, the Examiner has not established that Jin teaches that the coating thereof is useful as a primer, much less a primer in aqueous solution for a UV-curable paint that is co-cured therewith with UV radiation (Compare Ans. 4 with App. Br. 12). In this regard, the Examiner's reliance on the coating of Lokai to further reformulate the coating of Jin as a primer coating further attenuates the proposed rejection rather than proffering a rational basis for the proposed modifications predicated on the teachings of the applied references. Also, the Examiner's factual basis and reasoning for the proposed modification of the method of Crast is not advanced in the direction of the claimed subject matter based on the teachings of Nealon with respect to thermal curing of a primer and topcoat (Ans. 10-11; Nealon; col. 4, ll. 45-54; App. Br. 10 and 15; Reply Br. 5-7).

In making the assertions set forth in the Answer, the Examiner has seemingly taken at least some of the applied references' disclosures out of context without providing persuasive reasoning to support the contention that the combination thereof would have led one of ordinary skill in the art to the here claimed subject matter without the benefit of Appellant's disclosure. In other words, the Examiner's basis for the rejection falls short of identifying a persuasive rationale that would have led an ordinarily skilled artisan to combine selected features from each reference in a way that would

have resulted in a method corresponding to the claimed method. *See KSR*, 127 S. Ct. at 1741.

The Examiner's second stated obviousness rejection of claim 4 fares no better in that the Examiner has not established how Setthachayanon, as further relied upon by the Examiner in the separate rejection of dependent claim 4, would have cured the aforementioned deficiencies with respect to the Examiner's reliance on the four reference combination in rejecting the independent claim (claim 1) from which claim 4 depends (App Br. 18).

As we noted above, the Examiner bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). In this case, this initial burden was not met for either of the stated obviousness rejections.

CONCLUSION

Appellant has identified reversible error in the Examiner's obviousness rejections by asserting that the Examiner has not presented a *prima facie* case of obviousness. This is because the Examiner has not substantiated why one of ordinary skill in the art would have been led to the claimed subject matter by Crast's teachings taken in combination with the teachings of the other applied references; that is, by modifying Crast's method by: (1) employing a UV curable aqueous resin as a primer composition in Crast's method; (2) causing such a primer composition to remain non-irradiated with UV radiation before a UV curable paint is applied thereto; and (3) applying UV radiation to both layers together so that the layers cure at the same time as all of the appealed claims require.

ORDER

The decision of the Examiner to reject claims 1 and 3-6 under 35 U.S.C. § 103(a) as being unpatentable over Crast in view of Jin, Lokai, and Nealon; and to reject claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Crast in view of Jin, Lokai, Nealon, and Setthachayanon is reversed.

REVERSED

PL Initial:
sld

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